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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,499	06/15/2006	Antonius Adrianus Cornelis Maria Kalker	NL031463	7370

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EXAMINER	
WRIGHT, BRYAN F	

ART UNIT	PAPER NUMBER
2131	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,499	KALKER, ANTONIUS ADRIANUS CORNELIS MARI	
	Examiner	Art Unit	
	BRYAN WRIGHT	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the original filing of June 15, 2006. Claims (1-9) are pending and have been considered below.

Claim Objections

2. Claim 9 is objected to because of the following informalities: applicant usage of the word ***"means"*** proceeding computer program code is vague and indefinite. As such, examiner recommends applicant delete the word ***"means"***. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

a. Regarding claim 9, the claim is non-statutory as it is directed to a computer program.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US Patent No. 6,233,347 and Chen hereinafter) in view of Brunk et al. (US Patent No. 6,483,927 and Brunk hereinafter),

5. As to claim 1, Chen teaches **a method of enabling at least identification the presence data symbols that have been embedded in a media comprising the steps of: obtaining a transmitted media signal (r), (step 22)** (i.e., ... teaches a operation upon a host signal and watermark signal [fig. 3A; col. 19 lines 11- 14]), **which comprises a possibly distorted version of a host signal in which data symbols** (i.e., watermark) **have been embedded by quantisation using a certain quantisation step size and to which dither with a set of dither values has been added** (i.e., ... teaches a operation upon a host signal and watermark signal [fig. 3A; col. 19 lines 11- 14]), **providing several dither value intervals within the set, where each interval corresponds to one or a small number of dither values, (step 26)** (i.e., ... teaches derivatives [722, fig. 14]),

However Chen does not expressly teach:

determining a histogram for each dither value interval where a histogram is determined for all sample values of a set of signal samples of

the transmitted media signal (r) and having a dither value(s) in the corresponding dither value interval, (step 30) and determining at least a resealing factor (1/R) based on the combined histogram, (step 32), in order to estimate the quantisation step size.

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Chen as introduced by Bunk. Bunk discloses:

determining a histogram for each dither value interval where a histogram is determined for all sample values of a set of signal samples of the transmitted media signal (r) and having a dither value(s) in the corresponding dither value interval (step 30) combining the separate histograms corresponding to the intervals into a single histogram, (step 31) (to determine a quantization step Brunk provides histogram analysis for sampled block of data (col. 5, lines 31-43]**),) and determining at least a resealing factor (1/R) based on the combined histogram, (step 32), in order to estimate the quantisation step size** (to estimate a quantization step Brunk provides the capability of histogram analysis [col. 3, lines 30-39]). The modification of Chen with Brunk's teaching of quantization estimation using histogram will provide data signal restoration by utilizing the inverse of the analysis).

Therefore, given the teachings of Brunk, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Chen by employing the well known features of sampling data and generating a histogram disclosed above by Brunk, for which watermark detection will be enhanced [fig. 4; col. 5, lines 32-42].

6. As to claim 5, Chen teaches **an apparatus (10) for enabling at least identification the presence of data symbols that have been embedded in a media signal and comprising:**

a signal obtaining unit (12) arranged to obtain a transmitted media signal (r) comprising a possibly distorted version of a host signal in which data symbols (i.e., watermark) **have been embedded by quantisation using a certain quantisation step size and to which dither with a set of dither values has been added, and a signal distortion determining unit (14) arranged to** (i.e., ... teaches receiving a signal with a embedded watermark component. Said watermark component location representative of quantization values [fig. 9]):

provide several dither value intervals within the set, where each interval corresponds to one or a small number of dither values (i.e.,... teaches replicated quantization values [922, fig. 9]),

However Chen does not expressly teach:

determine a histogram for each dither value interval, where a histogram is determined for all sample values of a set of signal samples of

the transmitted media signal having a dither value in the corresponding dither value interval combine the separate histograms corresponding to the intervals into a single histogram, and determine at least a rescaling factor (1/R) based on the combined histogram in order to estimate the quantisation step size.

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Chen as introduced by Bunk. Bunk discloses:

determine a histogram for each dither value interval, where a histogram is determined for all sample values of a set of signal samples of the transmitted media signal having a dither value in the corresponding dither value interval, combine the separate histograms corresponding to the intervals into a single histogram (to determine a quantization step Brunk provides histogram analysis for sampled block of data (col. 5, lines 31-43])**, and determine at least a rescaling factor (1/R) based on the combined histogram in order to estimate the quantisation step size** (to estimate a quantization step Brunk provides the capability of histogram analysis [col. 3, lines 30-39]). The modification of Chen with Brunk's teaching of quantization estimation using histogram will provide data signal restoration by utilizing the inverse of the analysis).

Therefore, given the teachings of Brunk, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Chen by employing the well known features of sampling data and generating a histogram disclosed above by Brunk, for which watermark detection will be enhanced [fig. 4; col. 5, lines 32-42].

7. As to claim 9, Chen teaches a **computer program product (40) for enabling at least identification the presence data symbols that have been embedded in a media signal, comprising a computer readable medium having thereon:**

for an obtained transmitted media signal comprising a possibly distorted version of a host signal in which data symbols (i.e., watermark) **have been embedded by quantisation using a certain quantisation step size and to which dither with a set of dither values has been added** (i.e., … teaches receiving a signal with a embedded watermark component. Said watermark component location representative of quantization values [fig. 9]),

provide several dither value intervals within the set, where each interval corresponds to one or a small number of dither values (i.e., … teaches replicated quantization values [922, fig. 9]),

However Chen does not expressly teach:

computer program code means, to make the computer do, when said program is loaded in the computer: determine a histogram for each dither

value interval, where a histogram is determined for all sample values of a set of signal samples of the transmitted media signal having a dither value in the corresponding dither value interval, combine the separate histograms corresponding to the intervals into a single histogram, and determine at least a resealing factor based on the combined histogram in order to estimate the quantisation step size

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Chen as introduced by Bunk. Bunk discloses:

computer program code means, to make the computer do, when said program is loaded in the computer (to execute a program Brunk provides computer readable medium on which software is stored [claim 8]**: determine a histogram for each dither value interval,where a histogram is determined for all sample values of a set of signal samples of the transmitted media signal having a dither value in the corresponding dither value interval, combine the separate histograms corresponding to the intervals into a single histogram** (to determine a quantization step Brunk provides histogram analysis for sampled block of data (col. 5, lines 31-43])**, and determine at least a resealing factor based on the combined histogram in order to estimate the quantisation step size** (to estimate a quantization step Brunk provides the capability of histogram analysis [col. 3, lines 30-39]). The modification of Chen

with Brunk's teaching of quantization estimation using histogram will provide data signal restoration by utilizing the inverse of the analysis).

Therefore, given the teachings of Brunk, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Chen by employing the well known features of sampling data and generating a histogram disclosed above by Brunk, for which watermark detection will be enhanced [fig. 4; col. 5, lines 32-42].

8. Claims 2 - 4, and 6 - 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Bunk as applied to claim 1, 5 above, and further in view of Sugahara et al. (US Patent Publication No. 2002/0126428 and Sugahara hereinafter).

9. As to claims 3, 4, and 7, the system disclose by Chen in view of Brunk shows substantial features of the claimed invention (discussed in the paragraphs above), It fails to disclose:

> **A method further comprising the steps of estimating an offset (O) of the transmitted media signal, (step 32), and removing the estimated offset from the signal, (step 34).** (claim 2)

A method further comprising the step of rescaling the signal using the rescaling factor (1/R) in order to at least approximately restore the original media signal having embedded data, (step 36) (claim 3).

A method further comprising the step of processing the rescaled signal (r') in order to detect or extract the embedded data, (step 38) (claim 4)

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Chen in view of Brunk as introduced by Sugahara. Sugahara discloses:

A method further comprising the steps of estimating an offset (O) of the transmitted media signal, (step 32), and removing the estimated offset from the signal, (step 34) (claim 2) (to detect a watermark Sugahara provides the capability to calculate a DC offset and further provides the capability to extract the DC offset from the signal [par. 87)].

A method further comprising the step of rescaling the signal using the rescaling factor (1/R) in order to at least approximately restore the original media signal having embedded data, (step 36) (claim 3) (to provide restoration of original data Sugahara provides inverse converting capability to obtain original data state [par. 91]).

A method further comprising the step of processing the rescaled signal (r') in order to detect or extract the embedded data, (step 38) (claim 4) (to detect a watermark Sugahara provides processing for a pre-processed signal to extract watermark component from the signal [fig. 24])

Therefore, given the teachings of Sugahara, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Chen in view of Brunk by employing the well known features of data restoration with embedded watermark disclosed above by Sugahara, for which watermark detection will be enhanced [0116]-[0118].

10. As to claims 6, 7, and 8, the system disclose by Chen in view of Brunk shows substantial features of the claimed invention (discussed in the paragraphs above), It fails to disclose:

A apparatus where the signal distortion determining unit is further arranged to estimate an offset (O) of the transmitted media signal and further comprising a unit (16) arranged to remove the estimated offset from the signal. (claim 6)

A apparatus further comprising a multiplying unit (18) arranged to multiply the resealing factor (1/R) with the transmitted media signal

in order to at least approximately restore the original media signal having embedded data. (claim 7)

A apparatus further comprising a watermark detecting unit (20) arranged to process the rescaled signal (r') in order to detect or extract the embedded data. (claim 8)

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Chen in view of Brunk as introduced by Sugahara. Sugahara discloses:

A apparatus where the signal distortion determining unit is further arranged to estimate an offset (O) of the transmitted media signal and further comprising a unit (16) arranged to remove the estimated offset from the signal (claim 6) (to detect a watermark Sugahara provides the capability to calculate a DC offset and further provides the capability to extract the DC offset from the signal [par. 87]).

A apparatus further comprising a multiplying unit (18) arranged to multiply the resealing factor (1/R) with the transmitted media signal in order to at least approximately restore the original media signal having embedded data (i.e., watermark) (claim 7) (to provide a

multiplying configuration Sugahara utilizes a mixer unit for which the output contains a embedded watermark [0116]-[0118]).

A apparatus further comprising a watermark detecting unit (20) arranged to process the rescaled signal (r') in order to detect or extract the embedded data (claim 8) (to detect a watermark Sugahara provides the capability a detecting mechanism configured to process a pre-processed signal for purpose of watermark extraction [par. 87]).

Therefore, given the teachings of Sugahara, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Chen in view of Brunk by employing the well known features of DC offset generation and extracting watermark from a signal disclosed above by Sugahara, for which watermark detection will be enhanced [par. 87].

Prior Art Made of Record

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Michak et al. (EP 1253784) Derivation and quantization of robust non-local characteristics for blind watermarking

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN WRIGHT whose telephone number is (571)270-3826. The examiner can normally be reached on 8:30 am - 5:30 pm Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AYAZ Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRYAN WRIGHT/
Examiner, Art Unit 2131

/Ayaz R. Sheikh/

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